AUTHOR POSTOVSKIY I.YA., TREFILOVA L.F., SHEYNKER YU.N., BOGOMOLOV S.G.

20-2-29/67

TITLE On Non Coplanar Nature of Phenyl Nuclei In Diphenyl Derivatives. (O nekoplanarnosti fenilnykh yader v proizvochykh difenila -Russian)

PERIODICAL Doklady Akademii Nauk SSSR, 1957, Vol 113, Nr 2, pp 347-350 (U.S.S.R.)

Received 6/1957 Reviewed 7/1957

ABSTRACT It was ascertained that in the crystalline diphenyl molecule the phenyl nuclei lie in one and the same plane despite a partial superposition of the hydrogen atmospheres (which are inortho-position). The coplanarity of this compound is obviously caused by special conditions of the molecule package in the crystal, on which occasion the energy of a slight sphere compression of the hydrogen atoms is compensated by the convenient plane position. At the same time it is known that in the liquid and gaseous phase the diphenyl nuclei are not coplanar. This is also true for a number of n- and n'-diphenyl-substitutes in solutions in the case of lacking substituents in O-positions. So far, however, specifications the structure of such derivatives in crystalline condition are lacking. The authors spectroscopically investigated crystals of the diphenyl ketones within the infra-red domain. Structure formulas for the substances I.-IV. are given. In the I. and III.: The electron-giving influence of the methoxyl and the amino groups on the ketone group is transmitted on diphenyl-n-anisyl-ketone and diphenyl-n-aminophenyl-ketone by phenyl

Card 1/3

cycles, whereas in the II. and IV.: This influence is transmitted on n-metoxydiphenyl-ketone and n-aminodiphenyl-phenylketone by the diphenyl system. The assumption had to be examined that in the case of a noncoplanarity of the phenyl nuclei in diphenyl the mutual influence of the metoxy-and amino-groups with the carbonyl group in the compounds II. and IV.will be smaller in consequence of the destruction of the conjugation than in the compounds I.and III. As known,the frequency of the valence fluctuation of the carbonyl group in the direction of long waves becomes more dislocated the further the -π-electron interaction of the carbonyl group with other electron-giving groups of the molecule increases. Accordingly the oscillation frequency of the carbonyl group in the compound I will have to be smaller than in the compound II. and the oscillation frequency in III.smaller than in IV. Also polarographical determinations in a dioxane solution (as far as soluble) were carried out. Furthermore the corresponding benzophones were investigated. As evident from schedule 1 the influence of the electron-giving group OCH_3 becomes manifest in the lowering of the characteristic oscillation frequency of the C=O-group. The NH_2-group has a similar effect. From the results of the infrared spectra it can be concluded that the reciprocal influence of the groups in the ketones I and II both in solutions and in crystalline condition is less distinguished by the diphenyl system than in the

POSTOVSKIY, I.YA.

20-1-32/64

AUTHOR: TREFILOVA, L.F., POSTOVSKIY, I.Ya.

TITLE: Some Derivatives of Diphenyl and their Tuberculostatic Activity. (Nekotoryye proizvodnye difenila i ikh tuberkulostaticheskaya aktivnost', Russian)

PERIODICAL: Doklady Akademii Nauk SSSR, 1957, Vol 114, Nr 1, pp 116-119 (U.S.S.R.)

ABSTRACT: It is known that anilin possesses tuberculostatic capacity (in vitro) in the concentration 2.10-4. The derivatives of aromatic amines (of tuberculostatic compounds) comprise also the asometines.

Experimental results: Asometines, obtained from 4-diphenyl adehyd and aniline (33) exercise no positive influence on the growth of tubercles, but asometine (arivate) obtained from 4-aminodiphenyl and benzaldehyde has great tuberculostatic activity ($0{,}2 \cdot 10^2$).

Also the compounds 34, 35, 36, 37 remained inactive.

This tends to show that in the case of antitubercular activity the main part is played by the 4-aminodiphenyl and not by the

Card 1/2

Library of Congress

Card 2/2

Postovskiy, I. YA.

79-1-42/63

AUTHORS: Hirenburg, V. L., Postovskiy, I. Ya., Cherkasov, V. M.

TITLE: On Some Aryl Derivatives of Cyanogen Thiourea (O nekotorykh arilproizvodnykh tsiantiomocheviny)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol.28, Nr 1, pp.198-203(USSR)

ABSTRACT: In publications a number of thiourea compounds were described which possess biological activity. A large number of these papers was recently devoted to the derivatives of aminothiourea (thiosemicarbazide), among whom compounds of an antituberculous activity were found. Other derivatives of thiourea could also be of interest, thus e.g. those with the physiologically active cyanogen group. Thus it was attempted to synthesize some N-aryl-N'-cyanogen-thioureas (Ar-NH-CS-NH-C≡N). The easily accessible 5-imino-3-thion-1,2,4-dithiazolidine (isopersulfocyanic acid, "hydroxanthane") formula (I) served as initial product. This product which had already been obtained by Wöhler 1821 (reference 3) forms from potassium thiocyanate and sulfuric acid in the cold. In the conversion of 5-imi-

Card 1/3

On Some Aryl Derivatives of Cyanogen Thiourea

no-3-thion-1,2,4-dithiazolidine with aromatic amines the heterocycle splits with elimination of elementary sulfur and forms 1-aryldithiobiurates. Dithiobiurate easily oxidizes and is again converted to a cyclic dithiazolidine compound (III) "thiuret" which under the influence of a caustic potash solution is subject to splitting, where N-aryl-N'-cyanogen-thiourea manifests itself as a potassium salt of the isoform (IV). Thus the potassium salts and the methyl ethers of the isoform N-aryl-N'-cyanogen-thiourea were synthesized. It was found that, in contrast to aromatic formic acids, α-aminopyridine and α-aminopyrimidine split up "hydrxanthane", under which conditions thiocyanogen-hydrogen-salts of heterocyclic amines (not of dithiobiurates) form. It was shown that the potassium salts of cyanamidodithiocarbonic acid and N-aryl-N'-cyanisothioureas with various metals yield precipitates insoluble in water. On examination in vitro the A-aryl-N'-cyanisothiourea-salts proved to be inactive against the tuberculosis bacteria. There are 2 tables, and 18 references,1 of which is Slavic.

ASSOCIATION: Ural Polytechnic Institute (Ural'skiy politekhnicheskiy institut)

POSTOVSKIY, I. YA.

79-2-20/64

AUTHORS: Bednyagina, N. P., Panfilov, G. A., Postovskiy, I. Ya.

TITLE: On the Chemistry of Naphthacene (K khimii naftatsena)
VII. The Nitrating of Naphthacene (VII. Nitrovaniye naftatsena)

PERIODICAL: Zhurnal Obshchey Khimii, 1958, Vol. 28, Nr 2, pp. 365 - 368 (USSR)

ABSTRACT: This information was published in Zhurnal Obshchey Khimii, 20,1711, (1950). Due to the hard accessibility of the naphthacenic hydrocarbon its chemistry has been little investigated. Thus e.g. its nitrating has not yet been described in publications. The investigation carried out by the authors shows that naphthacene in nitrating behaves analogous to anthracene. Naphthacene forms unstable hydronitro products at the expense of the addition of nitric acid at the para-positions of one of the central rings. At the second central ring no addition takes place any more, probably because the addition at the first ring splits the molecule in two isolated aromatic systems: into the benzene- and naphthalene system which do not possess any active meta-positions. The obtained hydronitro derivatives of naphthacene, like the corresponding products of the anthracene series, represent little stable compounds. On heating in organic solvents, in attempts to recrystallize them, they are readily and completely converted to pure p-naphthacene quinone.

Card 1/3

On the Chemistry of Naphthacene. VII. The Nitrating of Naphthacene

Anaquinone or other products were not found in this connection. This indicates that the addition during nitrating only takes place at para-positions. To conclude from the constants and the values of the analyses dihydronitro derivates, even without additional purification, represent comparatively pure individual compounds. The most stable 9-nitro-10-acetoxydihydronaphthacene can be recrystallized from glacial acetic acid which was heated to 50°C. The production and the investigation of 9-nitronaphthacene are rendered difficult due to its extraordinary unstability. It is much less stable than 9-nitroanthracene and on heating in various organic solvents or during storage at low temperatures and especially in light it rapidly decomposes and is converted to p-naphthacene quinone. 9-nitronaphthacene can be recrystallized by putting in boiling water and rapidly cooling the solution after filtration. In a dry, crystalline state it is stable and can be stored. In contrast to the yellow 9-nitroanthracene, 9-nitronaphthacene is red. Summary: 1) It was found that on nitrating of naphthacene an addition product - 9-nitro-10-oxydihydronaphthacene (II) forms. By the influence of acetic acid it is converted to 9-nitro-10-acetoxydihydronaphthacene (III), and by the influence of concentrated hydrochloric acid in 9-nitro-10-chlorodihydronaphthacene (IV).

Card 2/3 2) The authors produced 9-nitronaphthacene (V) by the influence of

On the Chemistry of Naphthacene. VII. The Nitrating of Naphthacene

30 % NaOH upon 9-nitro-10-chlorodihydronaphthacene (IV). 3) It was found that the dihydronitro derivatives of naphthacene (II-IV) and 9-nitronaphthacene are still more unstable than the corresponding compounds of the anthracene series. On heating with solvents or without solvents they are easily converted to p-naphthacene quinone. There are 5 references, 1 of which is Slavic.

ASSOCIATION: Urals Polytechnical Institute
(Ural'skiy politekhnicheskiy institut)

SUBMITTED: January 7, 1957

AVAILABLE: Library of Congress

Card 3/3

76-32-2-24/38

AUTHORS: Sheynker, Yu. N., Postovskiy, I. Ya.

TITLE: The Tautomerism of Some Derivatives of Heterocyclic Compounds (O tautomerii nekotorykh proizvodnykh geterotsiklicheskikh soyedineniy) VI. Spectroscopic Data on the Structure of 9-(p-Oxyphenyl)- and 9-(p-Oxystyryl)Acridine (VI. Spektroskopicheskiye dannyye o stroyenii 9-(p-oksifenil)- i 9-(p-oksistiril)-akridinov)

PERIODICAL: Zhurnal Fizicheskoy Khimii, 1958, Vol. 32, Nr 2, pp. 394-403 (USSR)

Received: [illegible]

ABSTRACT: The following investigations were carried out: absorption spectra in the ultraviolet, visible and infrared range of 9-(p-oxyphenyl)- and 9-(p-oxystyryl)-acridine, as well as the spectra of their methyl-derivatives which correspond to the standard tautomeric oxy- and oxo-forms. The ultraviolet spectra were obtained by means of the СФ-4 spectrophotometer for alcohol- and alcohol-water solutions (in the latter case in acidous and basic medium). The oxy-compounds them-

Card 1/4

The Tautomerism of Some Derivatives of Heterocyclic Compounds. VI. Spectroscopic Data on the Structure of 9-(p-Oxyphenyl)- and 9-(p-Oxystyryl)Acridine

selves were also taken in the mixture dioxane-heptane (1 : 1). The infrared spectra were obtained for substances in crystalline state by means of the infrared spectrometer ИКС-11. A comparison of the spectra shows that the 9-oxyarylacridines in solutions as well as in crystalline state are close to their spectra according to the corresponding methoxy-derivatives and essentially differ from N-methyl-quino-acridanes. Thus the spectral data completely agree with those of the chemical and polarographic investigation and prove that the 9-oxyarylacridines are actually oxycompounds. The closeness (within the ultraviolet and visible range they almost coincide) of oxy- and methoxycompound spectra make it possible not only to refute a quinoacridane- but also the third possible structure for the 9-oxyacrylacridines which corresponds to the internal structure of the dipolar ion type (V, VI). The important separation of charges existing with internal ion structure as well as the impossibility of such a separation in methoxy derivatives would entrain a great difference of spectra (especially ultraviolet ones), which, however, was not observed. Therefore the experimental data do not agree with the assumption of an internal ion structure. This final

The Tautomerism of Some Derivatives of Heterocyclic Compounds. VI. Spectroscopic Data on the Structure of 9-(p-Oxyphenyl)- and 9-(p-Oxystyryl)Acridine

conclusion can also be proved by the comparison of the ultraviolet spectra of the compounds investigated with the acridine spectrum in neutral, acidous and basic medium. Concluding it can be assumed that the changes in the ultraviolet spectrum of the compounds investigated first of all represent the changes in the acridine nucleus of the molecule. The data of the infrared spectra show that in the oxycompounds investigated a remarkable polarization of molecules takes place. This consists in a certain displacement of the electrons from the O-H binding to the nitrogen atom through the system of double-bonds of the molecule and leads to the formation of very stable intermolecular hydrogen bonds O -H - N. The OH bond therefore in the spectra up to 2500-2600 cm is displaced, which is characteristic only for very stable hydrogen bonds in "pincer-shaped" structures with a clearly expressed polarization of the bonds. - It is shown that the difference between the 9-(p-oxyaryl)-acridine and the γ-oxyderivatives of aromatic N-heterocycles which are present in form of oxy-

The Tautomerism of Some Derivatives of Heterocyclic Compounds. VI. Spectroscopic Data on the Structure of 9-(p-Oxyphenyl)- and 9-(p-Oxystyryl)Acridine

compounds can be explained by taking into account the influence of steric factors on the stability of the one or the other tautomeric form of the molecule investigated. Possibly also the stability of the phenol-system plays a certain part in the stabilization of the oxy-form. There are 7 figures, and 9 references, 4 of which are Soviet.

ASSOCIATION: Vsesoyuznyy nauchno-issledovatel'skiy khimiko-farmatsevticheskiy institut im. S. Ordzhonikidze, Moskva (All-Union Scientific Chemical Pharmaceutical Research Institute imeni S. Ordzhonikidze, Moscow), Ural'skiy politekhnicheskiy institut im. S. M. Kirova, Sverdlovsk (Ural Polytechnical Institute imeni S. M. Kirov, Sverdlovsk)

SUBMITTED: November 26, 1956

1. Acridines--Spectra 2. Acridines--Structural analysis
3. Spectrophotometers--Performance

SOV/156-59-2-29/48

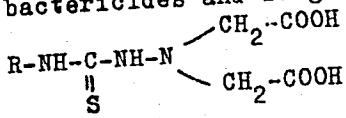
5(3)

AUTHORS: Postovskiy, I. Ya., Nirenburg, V. L.

TITLE: Thiosemicarbazide Derivatives of Imino-di-acetic Acid (Tiosemikarbazidnyye proizvodnyye iminodiuksusnoy kisloty)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 2, pp 330-332 (USSR)

ABSTRACT: The derivatives of imino-di-acetic acid have gained considerable importance as complex-forming compounds. Some of them, the so-called "complexons" are not only applied in analytical chemistry but also in medicine as detoxicators promoting the separation of detrimental metal compounds. Substances containing another group beside the residue of imino-di-acetic acid appeared to be of interest for biological experiments. For this purpose thiourea was chosen as it shows - as well as some of its derivatives -reactions together with various metal salts; apart from this thiourea derivatives are also bactericides and fungicides. The compounds



(R = C_6H_5, p-ClC_6H_4, p-$CH_3OC_6H_4$,

Card 1/2

Thiosemicarbazide Derivatives of Imino-di-acetic Acid

1-$C_{10}H_7$) were synthesized. Tables 1 and 2 show the physical data of these compounds. The reactivity of the sodium salts with respect to complex formation with metals was polarographically examined. Soluble complexes form with Co^{2+} at pH 2.4-12.0. There are 1 table and 4 references, 1 of which is Soviet.

PRESENTED BY: Kafedra organicheskoy khimii Ural'skogo politekhnicheskogo instituta im. S. M. Kirova
(Chair of Organic Chemistry, Ural Polytechnic Institute imeni S. M. Kirov)

SUBMITTED: July 22, 1958

5(3), 17(12) SOV/156-59-2-30/48

AUTHORS: Bednyagina, N. P., Postovskiy, I. Ya.

TITLE: The Synthesis and the Hydrolytic Separation of the Alkyl- and Benzyl-sulphones of Benzimidazole (Sintez i gidroliticheskoye rasshchepleniye alkil- i benzilsul'fonov benzimidazola)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 2, pp 333-337 (USSR)

ABSTRACT: Benzimidazole derivatives, which are substituted on the sulphone group or on nitrogen of the cycle by radicals, were investigated with respect to their stability to hydrolysis. Tables 1 and 2 show the synthesized compounds (alkyl- and aryl-substituted mercapto benzimidazoles, benzimidazolyl sulphones, N-substituted benzimidazolyl-alkyl(aryl)-sulphones and N-substituted benzimidazolones). The difference is pointed out existing between the highly acid sulphones and the sulphides produced for the first time in this investigation (mercapto compounds) without acid reaction, which are not alkylated when heated in alcohol with alkyl halides. Both the radical bound to the nitrogen and that bound to the sulphone group exercise an effect upon the stability to

Card 1/2

The Synthesis and the Hydrolytic Separation of the Alkyl- and Benzyl-sulphones of Benzimidazole

hydrolysis, i. e. in the order $CH_3 < C_4H_9 < CH_2C_6H_5$. Candidate of Medical Sciences, E. I. Chertkova, investigated the sulphone- and mercapto compounds at the Sverdlovskiy tuberkuleznyy institut (Sverdlovsk Institute of Tuberculosis) with respect to their effect to tubercle bacilli. Activity is very low. I. V. Panov, Docent at the Kafedra farmakologii Sverdlovskogo meditsinskogo instituta (Chair of Pharmacology Sverdlovsk Institute of Medicine) investigated the benzyl- and methyl-substituted sulphones with respect to their effect upon blood pressure. A special report will be given on the positive results of this test. There are 2 tables and 6 references, 4 of which are Soviet.

PRESENTED BY: Kafedra organicheskoy khimii Ural'skogo politekhnicheskogo instituta im. S. M. Kirova
(Chair of Organic Chemistry, Ural Polytechnic Institute imeni S. M. Kirov)

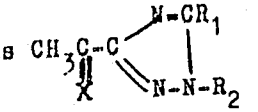
SUBMITTED: July 22, 1958

Card 2/2

5(3), 17(2)
AUTHORS: Vereshchagina, N. N., Postovskiy, I.Ya. SOV/156-59-2-32/48

TITLE: The Synthesis of 3-Acetyltriazoles-1,2,4 (Sintez 3-atsetiltriazolov-1,2,4)

PERIODICAL: Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 2, pp 341-345 (USSR)

ABSTRACT: The anti-tubercular action of many compounds is explained by their ability to form complexes (Refs 1-3). Besides such active compounds there are however similar ones with complex-forming abilities, which have no effect on tubercular bacilli. In order to explain the connection between the chemical structure of the complex-forming groups and the biological reaction, further systematic syntheses are necessary. For this work, acetyltriazoles were synthesized from acetamide through a reaction with anhydride of acetic acid or anhydride of propione as well as with orthoformic acid-ester. Obtained were the compounds not yet described in publications  and their oximes and thiosemicarbazones (X = O, NOH, $NNHCSNH_2$;

Card 1/2

The Synthesis of 3-Acetyltriazoles-1,2,4 SOV/156-59-2-32/48

R_1 = H, CH_3, C_2H_5; R_2 = C_6H_5, p-C_6H_4Cl and p-$C_6H_4OC_2H_5$). The physical data of the compounds produced are listed in table 1. In the experimental part, the production is described in detail. The oximes together with coppersalts form emerald-green sediments or solutions. The examination of the reaction on tubercular bacilli was carried out by E. I. Chertkova (Sverdlovskiy nauchno-issledovatel'skiy institut tuberkuleza - Sverdlovsk Scientific Research Institute for Tuberculosis). The oximes proved to be in-active, the thiosemicarbazones slow down the development of the tubercular bacilli in nutrient-solutions in a dilution of 1:100,000 and 1:10,000. There are 3 tables and 6 references.

PRESENTED BY: Kafedra organicheskoy khimii Ural'skogo politekhnicheskogo instituta im. S. M. Kirova (Chair of Organic Chemistry Ural Polytechnic Institute imeni S. M. Kirov)

SUBMITTED: September 22, 1958

Card 2/2

AUTHORS: Postovskiy, I. Ya., Lundina, I. B. SOV/79-29-2-54/71

TITLE: On the Tautomerism of Acyl Derivatives of 2-Aminothiazole (K tautomerii atsil'nykh proizvodnykh 2-aminotiazola)

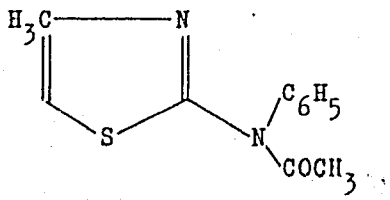
PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 2, pp 608-615 (USSR)

ABSTRACT: Publications describe two different acetyl derivatives of 2-aminothiazole. One compound (melting point at 114°) was synthesized by C. Joung and S. I. Crooks, the other one (melting point at 174°) by C. D. Hurd and N. Khlarach (Refs 1,2). The first one was synthesized by acetylating the amine with acetic acid anhydride in the presence of sodium acetate, and the second by reacting the same anhydride with the amine under addition of concentrated sulfuric acid. Since 2-aminothiazole can react in form of the amino and imino structure it could be presupposed that under various conditions of acetylation the isomeric compounds of the structure (A) and (B) are formed and correspond to the two tautomeric forms of 2-aminothiazole:

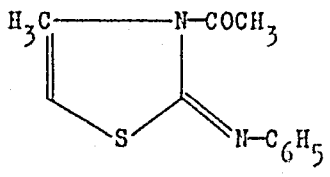
Card 1/3

On the Tautomerism of Acyl Derivatives of 2-Aminothiazole

SOV/79-29-2-54/71



(A)



(B)

On checking this presupposition it was of interest to clarify at the same time, whether also other 2-aminothiazole derivatives could yield two isomeric acetylation products. For this purpose the 2-aryl aminothiazoles (I-V)(Table 1) were acetylated under various conditions, in the presence of sodium acetate and concentrated sulfuric acid. Two acetyl derivatives (a) and (b) (Table 1) were obtained here for each amine, depending on the addition. Thus the results were as follows: 2-methyl and 2-phenyl aminothiazoles yield on acetylation under various conditions two isomeric acyl derivatives, corresponding to the two tautomeric forms of

Card 2/3

On the Tautomerism of Acyl Derivatives of 2-Aminothiazole

SOV/79-29-2-54/71

2-aminothiazole. Spectroscopic data show that the low-melting acetyl derivative represents the amide, and the high-melting one the imine. It was further found that also similarly structured heterocyclic compounds are capable of tautomerism and under the same conditions allow only one acetyl derivative to form (derivatives of aminothiodiazole, 2-amino pyridine, and others belong to this group). Low-melting acyl derivatives are shown to pass over to high-melting isomers in the presence of acetic acid and propionic acid anhydride, as well as of sulfuric acid. There are 2 figures, 3 tables, and 11 references, 2 of which are Soviet.

ASSOCIATION: Ural'skiy politekhnicheskiy institut (Ural Polytechnic Institute)

SUBMITTED: January 8, 1958

Card 3/3

5 (3) SOV/79-29-3-23/61

AUTHORS: Matevosyan, R. O., Postovskiy, I. Ya., Chirkov, A. K.

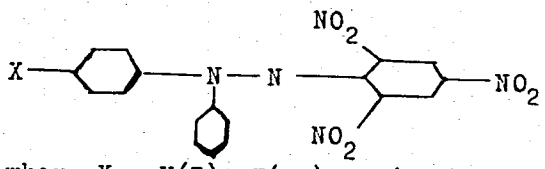
TITLE: Investigations in the Field of Chemistry of Free Radicals in the Hydrazine Series (Issledovaniya v oblasti khimii svobodnykh radikalov gidrazinovogo ryada). I. Some Derivatives of α,α-Diphenyl-β-Picryl Hydrazyl (I. Nekotoryye proizvodnyye α,α-difenil-β-pikrilgidrazila)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 3, pp 858-864 (USSR)

ABSTRACT: One of the physical methods of detecting the presence of the unpaired valence electron in free radicals is the method of electron paramagnetic resonance (Ref 1). In this way a number of stable hydrazine derivatives was investigated such as the α,α-diphenyl-β-picryl hydrazyl and similar hydrazyls (Refs 2-6). The application of this method permitted the investigations of the influence of various substituents in the free radical upon the unpaired electron. As initial product served the polyhalogen derivatives of α,α-diphenyl-β-picryl hydrazyl (I), with substituents X in the para position of the phenyl ring (II-IV):

Card 1/3

Investigations in the Field of Chemistry of Free Radicals in the Hydrazine Series. I. Some Derivatives of α,α-Diphenyl-β-Picryl Hydrazyl



where X = H(I); F(II); Cl(III); Br(IV). Two of these hydrazyls (II,III) are novel. The synthesis of these compounds was carried out according to the reaction scheme 1. The radical (IV) containing bromine, as well as the unsubstituted one were obtained according to Goldschmidt (Ref 7). The hydrazyls yield permanganate-colored chloroform solutions and readily crystallize as stable crystals of dark-violet color. By means of the above-mentioned method in the radicals obtained the exchange reactions of the unpaired electron, in dependence on the presence of one or another halogen in the para position of the phenyl radical were investigated. The determination was performed according to Zavoyskiy (Ref 8). It was found in this investigation that the highest exchange transpositions were shown by the unsubstituted hydrazyl (I), the lowest by the fluorine

Investigations in the Field of Chemistry of Free Radicals in the Hydrazine Series. I. Some Derivatives of α,α-Diphenyl-β-Picryl Hydrazyl

derivative (II). The latter is indicative of a more considerable localization of the unpaired electron in this radical as compared with the unsubstituted radical. There are 2 figures, 6 tables, and 16 references, 4 of which are Soviet.

ASSOCIATION: Ural'skiy politekhnicheskiy institut imeni S. M. Kirova (Ural Polytechnic Institute imeni S. M. Kirov)

SUBMITTED: January 23, 1958

5 (3)
AUTHORS: Postovskiy, I. Ya., Yermakova, M. I. SOV/79-29-4-63/77

TITLE: Synthesis of Some Formasanes, Thiohydrazides, and Thiadiazolines With a Carbohydrate Radical (Sintez nekotorykh formazanov, tiogidrazidov i tiadiazolinov s uglevodnym ostatkom)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 4, pp 1333 - 1340 (USSR)

ABSTRACT: Among the physiologically active heterocyclic compounds those in which the heterocycle is linked to the sugar radical by a straight C-C—bond are very interesting (Refs 1-9). The sulphurous heterocycles are especially interesting among these compounds. Therefore syntheses of some heterocycles with a carbohydrate radical were carried out here, since the publications give only few data (Refs 10-16). The synthesis of some 1,3,4--thiadiazolines which contain in position 5 a carbohydrate radical is described. They were obtained by the reaction of the hydrazides of thialdonic acids (I) which contain a galactose- and arabinose radical with carbonyl compounds according to scheme 1. Formaldehyde, acetone, benzaldehyde, o-methoxybenzaldehyde and furfurol were used as carbonyl compounds for the

Card 1/3

Synthesis of Some Formasanes, Thiohydrazides, and Thiadiazolines With a Carbohydrate Radical

SOV/79-29-4-63/77

condensation. Thiohydrazides (I) necessary for the synthesis of the thiadiazolines (II) were reduced with H_2S according to the method of G. Zemplen (Ref 17) by reduction of the formazyl compounds (III) where R'' represents a carbohydrate radical (Scheme 2). The formosanes can take part in the reactions in two tautomeric forms (III a) and (III b). If R differs from R', 4 products are bound to be synthesized according to the scheme, i. e. 2 thiohydrazides and 2 hydrazines. In the case of R=R', however, only one thiohydrazide and one hydrazine are bound to result. In the case of the reduction of the compounds (III), (V), (VII), and (IX) (Table 1) where R=R' the hydrazides of the thiogalactonic- and thioarabonic acid (X), (XI), (XII), and (XIII) (Table 2) were obtained. In the case of the reduction of (IV), (VI), and (VIII), where R n R' are different, unexpectedly only one thiohydrazide was obtained with a not substituted aryl, and a substituted aryl hydrazine. Thus the equilibrium shifted in the reaction towards the direction of the "form" a which is interesting with respect to the new data on the tautomerism of the asymmetrical formazanes in dependence on the nature of the radicals

Card 2/3

Synthesis of Some Formasanes, Thiohydrazides, and Thiadiazolines With a Carbohydrate Radical

SOV/79-29-4-63/77

R and R' (Ref 18). The thiohydrazides react smoothly with aldehydes in the hydrochloric acid containing alcohol medium under formation of 1,3,4, thiadiazolines (Table 3) which crystallize easily and are soluble in alcohol, dioxane, and acetone difficultly soluble in benzene and chloroform, insoluble in water. The thiohydrazides and thiadiazolines have a slight antitubercular activity. There are 3 tables and 21 references, 3 of which are Soviet.

ASSOCIATION: Ural'skiy filial Akademii nauk SSSR (Ural Branch of the Academy of Sciences, USSR)

SUBMITTED: March 20, 1958

Card 3/3

5(3)
AUTHORS: Postovskiy, I. Ya., Vereshchagina, N. N. SOV/79-29-7-8/83

TITLE: Synthesis of 3- and 3,5-Substituted Triazoles-1,2,4 (Sintez 3- i 3,5-zameshchennykh triazolov-1,2,4)

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 7, pp 2139-2143 (USSR)

ABSTRACT: 2-Benzyl benzimidazole (Ref 1) and 2-benzyl imidazoline (Ref 2) are highly active agents which reduce blood pressure and have the characteristic grouping (I). In this connection it was of interest to synthesize similar heterocyclic compounds of the same grouping, e.g. compound (VI), for the purpose of pharmacological investigation. 1,2,4-Triazoles with a γ-pyridyl residue were of interest in the first place, as far as they contain a (II) grouping, which is found in the active hydrazide of isonicotinic acid or in the corresponding hydrazones. Since most of the syntheses of the above triazoles described in references 1-6 produce only low yields the authors tried to synthesize different 3- and 3,5-derivatives of the 1,2,4-triazoles, i.e. by causing imino ether (III) to enter reaction with the acid hydrazides (IV) by way of acyl amidrazones (V) according to scheme 1. If R=H, monosubstituted triazoles are formed.

Card 1/2

According to scheme 2, one of the two different imino ethers and one of the two hydrazides which is less complicated for the synthesis may be chosen. The uncomplicated synthesis of 3- and 3,5-substituted 1,2,4-triazoles on the basis of imino ethers and acid hydrazides is recommended. From among the 13 acyl amidrazones and the 12 triazoles synthesized by the above method, 12 acyl amidrazones and 7 triazoles have not yet been described in publications. The free amido group of the γ-pyridyl derivatives of acyl amidrazones are important since they inhibit the growth of tubercle bacilli. There are 2 tables and 12 references, 3 of which are Soviet.

ASSOCIATION: Ural'skiy politekhnicheskiy institut
(Ural Polytechnic Institute)

SUBMITTED: June 20, 1958

5(3) SOV/79-29-9-64/76

AUTHORS: Postovskiy, I. Ya., Matevosyan, R. O., Chirkov, A. K.

TITLE: Investigation in the Field of the Chemistry of the Free Radicals of the Hydrazine Series. II. Synthesis and Properties of α-Biphenyl-α-phenyl-β-picryl-hydrazyl and Its Halogen Derivatives

PERIODICAL: Zhurnal obshchey khimii, 1959, Vol 29, Nr 9, pp 3106-3113 (USSR)

ABSTRACT: In continuation of the papers of references 1, 2 the authors try to explain the possible influence of the chlorine- and bromine atoms on the exchange interaction of the unpaired electron of the nitrogen atom if the halogen atom is in position 4 of the biphenyl ester of the radical (II). Compounds (IIa), (IIb), (IIv) were synthesized for this purpose. These free radicals hitherto not described in publications were obtained according to the above scheme. The new radicals are very stable compounds which do not change for months even in air. They crystallize from chloroform ether in the form of almost black prisms, they are, however, dark violet, in aromatic hydrocarbons and in chloroform. The radical (IIa) is obtained in two forms by the oxidation of the nonsubstituted picryl hydrazine (VIII). After the end of the oxidation first the

Investigation in the Field of the Chemistry of the Free Radicals of the Hydrazine Series. II. Synthesis and Properties of α-Biphenyl-α-phenyl-β-picryl-hydrazyl and Its Halogen Derivatives

radical (IIa) separates from the chloroform ether solution in prisms of almost black color (melting point 90-91°, yield 10-15%); after some hours a finely crystalline precipitate of brown color separates from the filtrate on standing at a low temperature (melting point 160-161°, yield 25-30%); it dissolves in chloroform ether with dark violet color. When vaporizing the solution, crystals of the radical with a melting point 90-91° are separated first; on standing at a low temperature the product with the melting point 160-161° again precipitates from the mother liquor. The black and brown product have the same empirical formulas. It was found by the method of paramagnetic resonance of electrons that the exchange interactions of the unpaired electron in the biphenyl radicals which are in crystalline state increase to a lesser degree in the transition from the nonsubstituted radical to the substituted one, than is the case with the corresponding phenyl radicals. It may be concluded therefrom that the biphenyl residue in the radicals (II) investigated

Investigation in the Field of the Chemistry of the Free Radicals of the Hydrazine Series. II. Synthesis and Properties of α-Biphenyl-α-phenyl-β-picryl-hydrazyl and Its Halogen Derivatives

SOV/79-29-9-64/76

transfers the influence of the halogen atoms to a lesser degree in the crystalline state than the phenyl in the radicals (I). On the basis of this method it was thus found that both products are free radicals; however, they have a different structure in the crystalline state since their ΔH are different. The measurement of paramagnetic resonance was made by A. K. Chirkov. There are 3 tables and 6 references, 4 of which are Soviet.

ASSOCIATION: Ural'skiy politekhnicheskiy institut
(Urals Polytechnic Institute)

SUBMITTED: August 11, 1958

Card 3/3

5(4)

SOV/76-33-2-10/45

AUTHORS: Sheynker, Yu. N., Postovskiy, I. Ya., Voronina, N. M.

TITLE: The Tautomerism of Several Heterocyclic Derivatives (O tautomerii nekotorykh proizvodnykh geterotsiklicheskikh soyedineniy). VII. Spectra and Structures of the Oxy and Mercapto Derivatives of Thiazole, Thiadiazole, and Triazole (VII. Spektry i stroyeniye oksi- i merkaptoproizvodnykh tiazola, tiadiazola i triazola)

PERIODICAL: Zhurnal fizicheskoy khimii, 1959, Vol 33, Nr 2, pp 302 - 309 (USSR)

ABSTRACT: In continuation of previous work (Ref 1) the authors investigated the effect of the sulfur atom upon the relation between oxy and oxo tautomeric forms with the purpose of finding regularities corresponding to those reported in reference 1. The structures of 2-oxy and mercapto derivatives of thiazoles, thiadiazoles, and triazoles as well as the structures of 2-oxy- and 2-mercapto-1,3,4-triazoles were studied using infra-red and ultra-violet spectra. A IKS-11 apparatus was used for the infra-red studies while a SF-4 spectrophotometer was used for the ultra-violet studies. The

Card 1/3

synthesis of the thiazole compounds was carried out by V. V. Kushkin. Among the synthetic methods used were those by Tscherniak (Chernyak)(Ref 8), Hantzsch (Ganch)(Ref 2), the modified method of Stolle and Fehrenbach (Shtolle and Ferenbakh) (Ref 9), and the methods of Busch (Bush)(Ref 13), and Widman (Vidman)(Ref 10). The experimental results show (Figs 1,2) that an oxo and not an oxy form is present in the oxy compounds investigated, which have crystalline form. The appearance of a high-frequency band of the C=O bond on one side and a low-frequency band on the other indicates that in the crystalline state the carbonyl groups of some oxy derivatives only partially participate in the formation of an inter-molecular hydrogen bond -NH ... O=C. It is possible that a hydrogen bond of the type -NH .. Hal will form when a halogen atom is present in the 5 position of the oxo and thion compounds. The infra-red spectra indicate that a thion and not a thiol form of the 2-mercapto derivatives is present in the thiazoles and triazoles. Dimercapto thiadiazole

possesses a thion-thiol from, i.e., it is a 5-mercapto thiadiazole-thion-2 and corresponds to the derivatives of the pyridazines and phthalazines, which are explained in terms of the system -CX-NH-NH-CX- (X=S,O). The sulfur atom does not change the acid and alkali properties of the tautomeric azol forms (corresponding to the heterocyclic compounds with a -CH=CH- group in place of the S atom). There are 6 figures and 13 references, 3 of which are Soviet.

ASSOCIATION: Khimiko-farmatsevticheskiy institut im. S. Ordzhonikidze Moskva(Chemical-Pharmaceutical Institute imeni S. Ordzhonikidze, Moscow)
Ural'skiy politekhnicheskiy institut im. S. M. Kirova Sverdlovsk (Ural Polytechnical Institute imeni S. M. Kirov, Sverdlovsk)

SUBMITTED: July 4, 1957

KAZARINOVA, N.F.; LATOSH, N.I.; POSTOVSKIY, I.Ya.

Investigating the complexons of amino acid derivatives. Izv.Sib. otd.AN SSSR no.2:60-70 '60. (MIRA 13:6)

1. Ural'skiy filial AN SSSR.
(Complexons) (Amino acids)

5.3600

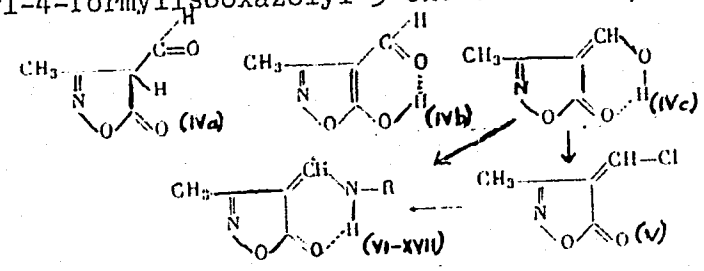
77899
SOV/79-30-2-50/78

AUTHORS: Sokolov, S. V., Postovskiy, I. Ya.

TITLE: Investigation of Isooxazole Compounds. II. Structure of 3-Methyl-4-formylisooxazolyl-5-one and of Some of Its Derivatives

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 2, pp 600-605 (USSR)

ABSTRACT: This is a continuation of previous work, in which the authors synthesized and studied the structure of 3-methyl-4-formylisooxazolyl-5-one chloride (IVa).



Card 1/2

Investigation of Isooxazole Compounds. II

77899
SOV/79-30-2-50/78

On the basis of infrared spectra it has been proved that the structure of 3-methyl-4-formylisooxazolyl-5-one (IVa) corresponds to that of 3-methyl-4-hydroxymethyleneisooxazolyl-5-one, e.g., this compound is enolized at the aldehyde group with the retention of lactone carbonyl. Unlike the above compound, 3-methyl-4-benzoylisooxazolyl-5-one is enolized at lactone carbonyl and is a 5-hydroxy derivative. The infrared spectra of prepared compounds are shown in Table 1. The structure (IVc) was confirmed by the reaction products of amines with formyl derivatives of isooxazolone. Altogether, 11 compounds not described in literature were prepared. There are 2 tables; and 7 references, 3 Soviet, 2 U.S., 1 U.K., 1 German. The U.S. and U.K. references are: Dains, F., Griffin, E., J. Am. Chem. Soc., 35, 959 (1913); Papini, P., Roversi, A. M., Ch. A., 46, 970 (1952); Cook, A. N., Shaw, G., J. Chem. Soc., 1952, 4467.

ASSOCIATION: S. M. Kirov Ural Polytechnic Institute (Ural'skiy politekhnicheskiy institut imeni S. M. Kirova)

SUBMITTED: February 23, 1959

Card 2/5

5.3600

78269
SOV/79-30-3-23/69

AUTHORS: Yermakova, M. I., Krylov, Ye. I., Postovskiy, I. Ya.

TITLE: Structure of Formazans. Study of the Magnetic Susceptibility of Complex Compounds of Copper, Cobalt, and Nickel With Formazans

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol 30, Nr 3, pp 849-854 (USSR)

ABSTRACT: Complexes of Cu, Co, and Ni were prepared with the following formazans: 1,3,5-triphenylformazan, 1-p-tolyl-3,5-diphenylformazan, 1-p-chlorophenyl-3,5-diphenylformazan, and 1-o-carboxyphenyl-3,5-diphenylformazan. The physical constants of the prepared complexes are shown in Table 1.

Card 1/2

SOKOLOV, S.V.; POSTOVSKIY, I.Ya.

Studies in the series of isoxazole compounds. Part 3: Synthesis of some isoxazolylazoles. Zhur.ob.khim. 30 no.6: 1781-1787 Je '60. (MIRA 13:6)

1. Ural'skiy politekhnicheskiy institut.
(Pyrrole) (Isoxazole)

04868

S/079/60/030/010/004/030
B001/B075

112122

AUTHORS: Matevosyan, R. O., Postovskiy, I. Ya., and Chirkov, A. K.

TITLE: Investigation in the Field of the Chemistry of Free Radicals of the Hydrazine Series. III. Synthesis and Properties of N-Carbazyl Picryl Nitrogen and Its Halogen Derivatives

PERIODICAL: Zhurnal obshchey khimii, 1960, Vol. 30, No. 10, pp. 3186-3193

TEXT: The spectrum of the hyperfine structure of electron paramagnetic resonance of the stable radical α,α-diphenyl-β-picryl hydrazyl (DPPH) (I) indicates that the unpaired electron on N^{β} does not react with the π-electrons of the picryl- and diphenyl amine residues (Ref. 1). According to Refs. 1-3, a substitution of the diphenyl amine residue in DPPH by the coplanar carbazyl residue leads to a considerable change of the spectrum of the hyperfine structure of e. p. r. . According to the data of Ref. 4, the electron cloud of the unpaired electron in this radical is also distributed among two nitrogen atoms. However, it is not uniformly distributed but shifted toward one of the nitrogen atoms. This highly interesting

Card 1/3

Investigation in the Field of the Chemistry of Free Radicals of the Hydrazine Series. III. Synthesis and Properties of N-Carbazyl Picryl Nitrogen and Its Halogen Derivatives

S/079/60/030/010/004/030
B001/B075

and rather stable radical has hitherto been investigated only little. The authors did not know its synthesis, and only its paramagnetic properties have been mentioned in publications. In order to determine the dependence of the free hydrazyl radicals upon their structure, the properties of the carbazyl radical and of its 3-chlorine and 3-bromine derivatives were investigated and compared with those of the corresponding diphenyl radicals (Refs. 5 and 6) (Table 1). The authors synthesized the following free radicals of the carbazyl series, which had hitherto not been described: N-(3-carbazyl chloride)-picryl nitrogen and N-(3-carbazyl bromide)-picryl nitrogen. By means of electron paramagnetic resonance it was found that in weak fields (ΔH_o = 20 oe), N-carbazyl-picryl nitrogen and its 3-chlorine and 3-bromine derivatives contained in crystalline samples interact less than α,α-diphenyl-β-picryl hydrazyl and its halogen derivatives. The authors discuss the constituting and spatial factors affecting the properties of carbazyl radicals. A reaction formula is given for the synthesis of N-carbazyl picryl nitrogen and its halogen derivatives. Two figures illustrate the results obtained, and Table 2 gives the constants of the compounds synthesized. There are 2 figures, 2 tables, and

81868

Investigation in the Field of the Chemistry of Free Radicals of the Hydrazine Series. III. Synthesis and Properties of N-Carbazyl Picryl Nitrogen and Its Halogen Derivatives

S/079/60/030/010/004/030
B001/B075

11 references: 4 Soviet, 5 US, 1 Swiss, and 1 German.

ASSOCIATION: Ural'skiy politekhnicheskiy institut (Ural Polytechnic Institute)

SUBMITTED: August 13, 1959

Card 3/3

80063
S/020/60/132/01/37/064
B011/B126

5.3900

AUTHORS: Postovskiy, I. Ya., Kazarinova, N. F., Afanas'yeva, G. B., Latosh, N. I.

TITLE: New Esters of Dithiocarbamic Acids

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 1, pp. 141-144

TEXT: In the publications data on the protective effect of antiradon (AET, β-aminoethyl isothiuronium bromide (I)) against ionizing radiation have appeared (Refs. 1, 2). Thus, the authors tried to synthesize compounds with a similar structure, namely, β-aminoethyl dithiocarbamates (II). They have produced new carbamates with a non-substituted amino group (IV, V, VI). They are formed by the reaction of β-chloroethylamine with sodium salts of the relevant dithiocarbamic acids (sodium diethyl dithiocarbamate, -tetramethylene dithiocarbamate, and pentamethylene dithiocarbamate). The reaction products were obtained as easily crystallizable hydrochlorides (Table 1). By using the known reaction between amines and quinones, the authors have synthesized new derivatives of benzo- and naphthoquinone (VII-XIV) (see scheme). These types of compound have recently become recognized as physiologically active, and as new synthetic drugs, amongst

Card 1/2

New Esters of Dithiocarbamic Acids

S/020/60/132/01/37/064
B011/B126

other things as antibacterial and antigrowth mediums. The benzoquinone derivatives (VII-IX) and the naphthoquinone derivatives (X-XIV) contain β-aminoethyl-dithiocarbamate residues, and easily form on the interaction of free amines (IV, V, VI) with quinones in an ethereal solution. They are red, readily crystallizing, not easily soluble substances (Table 2). There are 3 tables and 8 references, 1 of which is Soviet.

ASSOCIATION: Institut khimii Ural'skogo filiala Akademii nauk SSSR (Institute of Chemistry of the Ural Branch of the Academy of Sciences, USSR)

PRESENTED: January 17, 1960, by B. A. Kazanskiy, Academician

SUBMITTED: December 21, 1959

GRINBLAT, Ye.I.; POSTOVSKIY, I.Ya.

Some new reactions of addition between acetylenecarboxylic acids and their esters. Dokl.AN SSSR 133 no.4:847-850 Ag '60. (MIRA 13:7)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova. Predstavleno akademikom M.I.Kabachnikom.
(Propiolic acid) (Addition reactions)

KAZAKOV, V.Ya.; POSTOVSKIY, I.Ya.

Syntheses and some reactions of 4-substituted thiosemicarbazides. Dokl.AN SSSR 134 no.4:824-827 O '60. (MIRA 13:9)

1. Ural'skiy politekhnicheskiy institut im.S.M.Kirova. Predstavleno akad. M.M.Shemyakinym.
(Semicarbazide)

YERMAKOVA, M.I.; VASIL'YEVA, N.L.; POSTOVSKIY, I.Ya.

N,N'-bis(2-hydroxy-5-sulfophenyl)-C-cyanoformazan as a reagent for the photometric determination of gallium. Zhur. anal. khim. 16 no. 1:8-13 Ja-F '61. (MIRA 14:2)

1. Institut of Chemistry, Academy of Sciences of the U.S.S.R., Ural Branch, Sverdlovsk.
(Gallium--Analysis) (Formazan)

GRINBLAT, Ye.I.; POSTOVSKIY, I.Ya.

Reactions involving additions of acetylenecarboxylic acids to their esters. Part 1: Reactions of acetylenedicarboxylic acid and its esters with aryl sulfinic acids. Zhur. ob. khim. 31 no. 2:389-393 F '61. (MIRA 14:2)

1. Ural'skiy politekhnicheskiy institut.
(Acetylenedicarboxylic acid) (Sulfinic acids)

POSTOVSKIY, I.Ya.; GRINBLAT, Ye.I.; TNEFILOVA, L.F.

Reactions involving additions of acetylenecarboxylic acids and their esters. Part 3: Reactions with cyclic amines and β,β'-dichlorodiethylamine. Zhur. ob. khim. 31 no. 2:400-407 F '61. (MIRA 14:2)

1. Ural'skiy politekhnicheskiy institut.
(Amines) (Diethylamine)

MATEVOSYAN, R.A.; GABRIEL'YAN, Ye.G.; CHILIKOV, A.F.; POSTOVSKIY, I.Ya.

Comparative dehydrogenating capacity of some diarylpicrylhydrazyl radicals. Dokl. AN SSSR 137 no. 1:99-101 Mr-Ap '61.
(MIRA 14:2)

1. Ural'skiy politekhnicheskiy institut im. S.M. Kirova.
Predstavleno akademikom M.M. Shemyakinym.
(Dehydrogenation) (Radicals (Chemistry))

SHCHIPANOV, V.P.; PORTNOVA, S.L.; KRASNOVA, V.A.; SHEYNKER, Yu.N.; POSTOVSKIY, I. Ya.

Structure and spectra of 5-aminotetrazoles and their acyl derivatives. Zhur. org. khim. 1 no. 12:2236-2244 D '65 (MIRA 19:1)

1. Ural'skiy politekhnicheskiy institut imeni Kirova i Institut khimii prirodnykh soyedineniy AN SSSR. Submitted December 9, 1964.

VERESHCHAGINA, N.N.; POSTOVSKIY, I.Ya.; MERTSALOV, S.L.

Benzodiazine series. Part 7: 1-(2-R-quinazolyl)-4 R'-thiosemicarbazides and their properties. Zhur. org. khim. 1 no.6:1154-1158 Je '65. (MIRA 18:7)

1. Ural'skiy politekhnicheskiy institut institut imeni Kirova.

AFANAS'YEVA, G.B.; POSTOVSKIY, I.Ya.

Reaction of 9-dialkylaminobenzo [α] phenoxazonium salts with aryl-sulfinic acids and some SH compounds. Zhur. org. khim. 1 no.6:1163-1169 Je '65. (MIRA 18:7)

1. Ural'skiy politekhnicheskiy institut imeni Kirova, Sverdlovsk.

L 52605-65 EWT(1)/EWA(j)/EWT(m)/EPF(c)/EWP(j)/EWA(b)-2/EWA(c) Pc-4/Pr-4
ACCESSION NR: AP5015862 RM/RO UR/0063/64/009/006/0711/0712

AUTHOR: Smirnova, N. B.; Postovskiy, I. Ya.

TITLE: Some purine azides

SOURCE: Vsesoyuznoye khimicheskoye obshchestvo. Zhurnal, v. 9, no. 6, 1964, 711-712

TOPIC TAGS: pesticide, azide

Abstract: Since certain heterocyclic azides have potential physiological activity, 2,6-diazidopurine and 2,6,8-triazidopurine were synthesized from the corresponding choro derivatives of purine by reaction with sodium azide. The azido-derivatives enter into nucleophilic substitution reactions in the 6-position of purine with cycloalkylamines: 6-morpholino-2,8-diazidopurine was obtained from 2,6,8-triazidopurine. The structures of the compounds produced were verified by a study of their infrared and ultraviolet spectra. The data indicated that all the compounds studied do not possess anellated tetrazole rings and, consequently, are mono-, di-, and triazides. Purine azides are readily crystallizing substances, which darken when exposed to light and decompose explosively upon heating. Orig. art. has 6 formulas.

Card 1/2

L 52605-65

ACCESSION NR: AP5015862

ASSOCIATION: Ural'skiy politekhnicheskiy institut im. S. M. Kirova (Ural Polytechnic Institute)

SUBMITTED: 20Apr64 ENCL: 00 SUB CODE: OC, GC

NO REF SOV: 000 OTHER: 003 JPRS

Card 2/2

AFANAS'YEVA, G.B.; POSTOVSKIY, I. Ya.

Reaction of benzo [α]-phenoxazin-6-one with arylsulfinic acids. Zhur. ob. khim. 34 no.12:3893-3898 D '64 (MIRA 18:1)

1. Ural'skiy politekhnicheskiy institut im. S.M. Kirova.

POSTOVSKIY, I.Ya.; NIRENBURG, V.L.

Aminomethylation of 1-aryl-5-tetrazolinethiones and the structure of the bases obtained. Zhur. ob. khim. 34 no. 8:2517-2521 Ag '64. (MIRA 17:9)

1. Ural'skiy politekhnicheskiy institut imeni S.M. Kirova.

VERESHCHAGINA, N.N.; POSTOVSKIY, I.Ya.; MERTSALOV, S.L.

New case of hydrolytic cleavage of a quinazoline pyrimidine ring. Zhur. ob.khim. 34 no. 5:1689 My '64. (MIRA 17:7)

1. Ural'skiy politekhnicheskiy institut imeni Kirova.

AFANAS'YEVA, G. B.; POSTOVSKIY, I. Ya.

Reactions of benzo[α]phenoxazine-9-one with some mercapto compounds. Zhur. ob. Khim. 34 no.6:1741-1745 Je '64.
(MIRA 17:7)

1. Ural'skiy politekhnicheskiy institut imeni Kirova.

VERESHCHAGINA, N. N.; POSTOVSKIY, I. Ya.

Benzodiazine series. Part 5: 4-R-4,5-dihydro-s-triazolo [1,2-]-5-quinazolinones and 4-R-4,5-dihydrotetrazolo [1,2-]-5quinazolinones. Zhur. ob. Khim. 34 no.6:1745-1748 Je '64. (MIRA 17:7)

1. Ural'skiy politekhnicheskiy institut imeni Kirova.

ACCESSION NR: AP4018056 S/0079/64/034/002/0424/0431

AUTHOR: Pushkina, L. N.; Postovskiy, I. Ya.

TITLE: Synthesis and properties of isometric naphthoxazoles substituted in the 2-position

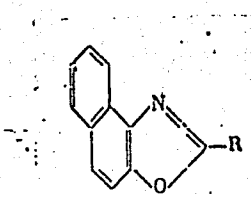
SOURCE: Zhurnal obshchey khimii, v. 34, no. 2, 1964, 424-431

TOPIC TAGS: luminescent property, benzazole, arylnaphthoxazole, ultraviolet absorption spectrum, luminescent spectrum, naphthoxazole

ABSTRACT: Interest in the relationship between the structure and luminescent properties of benzazoles led to the synthesis of naphth[1,2d]-, naphth[2,1d]- and naphth[2,3d] oxazoles substituted in the 2-position. Compounds I-III

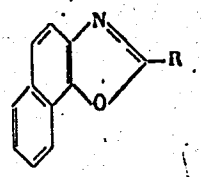
Card 1/4

ACCESSION NR: AP 4018056



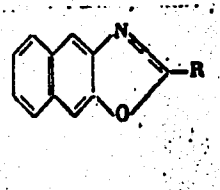
(I)

$R = CH_3$, C_6H_5, n-C_6H_4X (X = Cl, F), n-$C_6H_4ClH_3$, n-$C_6H_4N(CH_3)_2$, n-$C_6H_4C_6H_5$, i-$C_{10}H_7$, n-CH=CHC$_6$H$_4$Cl.



(II)

$R = CH_3$, C_6H_5, n-C_6H_4Cl, n-$C_6H_4N(CH_3)_2$, n-$C_6H_4C_6H_5$, i-$C_{10}H_7$.



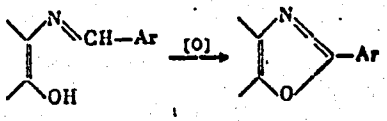
(III)

$R = C_6H_5$, n-$C_6H_4N(CH_3)_2$, n-$C_6H_4C_6H_5$, i-$C_{10}H_7$.

were obtained by oxidation of azomethynes with potassium permanganate in acetone solution or nitrobenzene:

Card 2/4

ACCESSION NR: AP4018056



Initial azomethynes were obtained by condensation of corresponding isomeric *o* -aminonaphthols and aromatic aldehydes. The naphthoxazoles I-III are the best achromatic or slightly yellowish substances. They strongly fluoresce the blue or blue color in the near-ultraviolet. In accordance with its anthracenoid structure the linear isomers (III) have a higher melting point and are less soluble in nonpolar solvents than the angular (phenanthrenoid) isomers. In the phenanthrenoid structure of the angular compounds (I) and (II) a more favorable localization of the π-electronic cloud guarantees the aromatic characteristics of both the naphthalene and oxazole portion of the molecule. In the anthracenoid structure of the linear compounds (III) a break in uniformity in the direction of structure A or B is conceivable. The luminescent properties of 2-arylnaphthoxazoles in

Card 3/4

ACCESSION NR: AP4018056

solutions are determined to a significant degree by the 2-arylbenzoxazole system of the molecule included in them. Measurement of the scintillation effectiveness in the toluene solutions indicated that the angular 2-arylnaphthoxazoles provide the same order of luminescence efficiency as the standard solution of n-terphenyl. Study of the ultraviolet absorption spectra and the luminescence spectra permit the assumption that there is an oxazole type of structure in the angular 2-arylnaphthoxazoles and an oxazoline type of structure of the hetero-ring in the linear 2-arylnaphthoxazoles. "S. A. Mazalov participated in the syntheses." "The authors are grateful to V. V. Tkacheva for participating in the measurements of luminescence spectra and determination of scintillation effectiveness." Orig. art. has: 2 tables.

ASSOCIATION: Ural'skiy politekhnicheskiy institut (Ural Polytechnical Institute)

SUBMITTED: 07Dec62 DATE ACQ: 19Mar64 ENCL: 00

SUB CODE: CH NO REF SOV: 007 OTHER: 012

Card 4/4

GONCHAROVA, I.N.; POSTOVSKIY, I.Ya.

Benzodiazine series. Part 4: Structure and hydrolysis of tetrazoloazidoquinazoline. Zhur. ob. khim. 33 no.8:2475-2480 Ag '63. (MIRA 16:11)

1. Ural'skiy politekhnicheskiy institut.

PODGORNAYA, I.V.; POSTOVSKIY, I.Ya.

Syntheses of derivatives of thiourea and thiosemicarbazide containing a residue of morpholine. Zhur.ob.khim. 34 no.1:33-37 Ja '64. (MIRA 17:3)

1. Ural'skiy filial AN SSSR, Institut khimii.

PODGORNAYA, I.V.; POSTOVSKIY, I.Ya.

Syntheses of derivatives of thiosemicarbazide containing bis(β-hydroxyethyl)amino groups. Zhur.ob.khim. 33 no.6:2037-2040 Je '63. (MIRA 16:7)

1. Institut khimii Ural'skogo filiala AN SSSR.
(Semicarbazide)

POSTOVSKIY, I.Ya.; GONCHAROVA, I.N.

Benzodiazine series. Part 3: Tetrazole-azidoazomethine equilibrium in some quinazoline compounds. Zhur.ob.khim. 33 no.7:2334-2342 Jl '63. (MIRA 16:8)

1. Ural'skiy politekhnicheskiy institut.
(Quinazoline)

PUSHKINA, L.N.; TKACHEV, V.V.; POSTOVSKIY, I.Ya.

Spectral characteristics and scintillation properties of some 2-aryl derivatives of benzoxazole and benzimidazole. Dokl.AN SSSR 149 no.1:135-138 Mr '63. (MIRA 16:2)

1. Ural'skiy politekhnicheskiy institut im. S.M.Kirova. Predstavleno akademikom A.N.Terenin[illegible].
(Benzoxazole—Spectra) (Benzimidazole—Spectra)

TYURENKOVA, G.N.; LIPATOVA, L.F.; POSTOVSKIY, I.Ya.

Collector action of certain substituted 2-mercaptobenzimidazoles. (MIRA 16:2)
TSvet.met. 36 no.2:77-80 F '63.
(Flotation--Equipment and supplies)
(Mercapto compounds)

POSTOVSKIY, I.Ya.; BEDNYAGINA, N.P.; SENYAVINA, L.B.; SHEYNKER, Yu.N.

Study of azide-tetrazole tautomerism with the aid of infrared spectroscopy. Izv. AN SSSR.Ser.fiz. 26 no.10:1298-1300 O '62. (MIRA 15:10)

1. Ural'skiy politekhnicheskiy institut im. Kirova i Institut khimii prirodnykh soyedineniy AN SSSR.
(Azides--Spectra) (Tetrazole--Spectra) (Tautomerism)

POSTOVSKIY, I.Ya.; PUSHKINA, L.N.; MAZALOV, S.A.

Benzazole series. Part 1: Syntheses of benzoxazoles with the purpose of studying their scintillation properties. Zhur.ob.khim. 32 no.8:2617-2624 Ag '62. (MIRA 15:9)

1. Ural'skiy politekhnicheskiy institut imeni S.M. Kirova.
(Benzoxazole) (Scintillation (Physics))

PUSHKINA, L.N.; MAZALOV, S.A.; POSTOVSKIY, I.Ya.

Benzazole series. Part 2: Syntheses of benzimidazoles with the purpose of studying their scintillation properties. Zhur.ob.khim. 32 no.8:2624-2633 Ag '62. (MIRA 15:9)

1. Ural'skiy politekhnicheskiy institut.
(Benzimidazole) (Scintillation (Physics))

BEDNYAGINA, N.P.; GETSOVA, I.N.; POSTOVSKIY, I.Ya.

Benz- and naphthazole series. Part 2: Regularities of the alkylation of 2-chloronaphth-(1,2)imidazole. Zhur.ob.khim. 32 no.9:3011-3015 S '62. (MIRA 15:9)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova.
(Naphthimidazole)

BEDNYAGINA, N.P.; GETSOVA, I.N.; POSTOVSKIY, I.Ya.

Benz- and naphthazole series. Part 3: 2-Hydrazino- and 2-azidonaphth-(1,2)imidazoles. Zhur.ob.khim. 32 no.9:3015-3019 S '62. (MIRA 15:9)

1. Ural'skiy politekhnicheskiy institut imeni S.M. Kirova.
(Imidazole)

PODGORNAYA, I.V.; ~~POSTOVSKIY~~, I.Ya.

Syntheses of 1,1-bis(β-hydroxyethyl)thiosemicarbazides. Zhur.ob.khim. 33 no.3:744-748 Mr '63. (MIRA 16:3)

1. Institut khimii Ural'skogo filiala AN SSSR.
(Semicarbazide)

TANASEYCHUK, B.S.; SOKOLOV, S.V.; ABEZGAUZ, F.I.; POSTOVSKIY, I.Ya.

Synthesis of derivatives of 1,2-benzanthracene. Zhur.ob.khim. 33 no.4:1319-1322 Ap '63. (MIRA 16:5)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova.
(Benzanthracene)

BEDNYAGINA, N.P.; POSTOVSKIY, I.Ya.

Benzazoles. 2-Hydrazino- and 2-azidobenzimidazoles. Zhur.ob. khim. 30 no.5:1431-1437 My '60. (MIRA 13:5)

1. Ural'skiy politekhnicheskiy institut.
(Benzimidazole)

GONCHAROVA, I.N.; POSTOVSKIY, I.Ya.

Benzodiazine series. Part 2: Some 2,3-amino derivatives of quinoxaline. Zhur.ob.khim. 32 no.10:3332-3339 O '62. (MIRA 15:11)

1. Ural'skiy politekhnicheskiy institut imeni S.M. Kirova.
(Quinoxaline)

POSTOVSKIY, I.Ya.; GONCHAROVA, I.N.

Benzodiazine series. Part 1: 2,4-dicycloalkylaminoquinazoline.
Zhur.ob.khim. 32 no.10:3323-3331 O '62. (MIRA 15:11)

1. Ural'skiy politekhnicheskiy institut imeni S.M. Kirova.
(Quinazoline)

TREGUBENKO, I.P.; PODGORNAYA, I.V.; POSTOVSKIY, I.Ya.; SEMENOV, D.I.

Rapid elimination of yttrium, cerium, and lead from the organism with uramildiacetate, 1,2-diaminecyclohexanetetraacetate and polyethylene-polyaminopolyacetate. Radiobiologiia 2 no.2:200-206 '62. (MIRA 15:4)

1. Laboratoriya biofiziki i Institut khimii Ural'skogo filiala AN SSSR, Sverdlovsk.
(RADIOISOTOPES)

LIPATOVA, L.F.; POSTOVSKIY, I.Ya.

Certain amides of sarcolysine. Zhur.ob.khim. 32 no.4:1062-1064 Ap '62. (MIRA 15:4)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova.
(Sarcolysine)

SOKOLOV, S.V.; POSTOVSKIY, I.Ya.

Isoxazole compounds. Part 4: Derivatives of 4-aminoisoxazole containing cytotoxic groups. Zhur.ob.khim. 32 no.4:1064-1066 Ap '62. (MIRA 15:4)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova.
(Isoxazole)

POSTOVSKIY, I.Ya., LIPATOVA, L.F.

Derivatives of acenaphthene containing a bis(β-chloroethyl)-amino group. Zhur.ob.khim. 32 no.4:1067-1068 Ap '62. (MIRA 15:4)

1. Ural'skiy politekhnicheskiy institut imeni S.M.Kirova.
(Acenaphthene)

S/079/62/032/008/002/006
D204/D307

AUTHORS: Postovskiy, I. Ya., Pushkina, L.N. and Mazalov, S. A.

TITLE: Investigations of benzazoles. I. Synthesis of benzoxazoles in order to study their scintillating properties

PERIODICAL: Zhurnal obshchey khimii, v.32, no. 8, 1962 2617 - 2624

TEXT: Synthesis of 2-arylbenzoxazoles (I), 1 - (2'-benzoxazolyl) - 2 arylethylenes (II) and 1 - phenyl - 1 - (2'-benzoxazolyl) - 2-arylethylenes (III) are described. 25 of the compounds prepared are new. Series I was produced by the oxidation of o- aminophenol azomethynes with $KMnO_4$ in acetone, at room temperature, in 60 - 80 % yields. 2-(9' - Acridyl)-benzoxazole was made by the oxidation of its azomethyne with boiling $PhNO_2$ and 2-benzoxazolyl - 1'- naphthyl-methane by the condensation of o-aminophenol with 1-naphthylacetic acid, by heating to 180 - 190°C

Card 1/3

Investigations of benzazoles. I. ... B/079/62/032/008/002/006
D204/D307

SUBMITTED: August 7, 1961

Card 3/3

S/079/62/032/008/003/006
D204/D307

AUTHORS: Pushkina, L. N., Mazalov, S. A. and Postovskiy, I. Ya.

TITLE: Investigations of benzazoles. II. Synthesis of benzimidazoles in order to study their scintillating properties

PERIODICAL: Zhurnal obshchey khimii, v. 32, no. 8, 1962 2624 - 2633

TEXT: The authors synthesized 2-aryl-benzimidazoles (I), 1-phenyl- and 1-methyl-2-aryl-benzimidazoles (II and III), 1-benzyl-2-aryl-benzimidazoles (IV), and 1-benzimidazolyl-2-aryl-ethylenes (V, VI, VII), to study their optical and scintillating properties and to compare them with benzoxazoles described in Part I (ZhOKh, this issue, pp. 2617 - 2624). 41 of these compounds are new. I were prepared, in 60 - 80 % yields, by the condensation of o-phenylenediamine with aromatic acids in the presence of H_3BO_3, at 190 - 200°C over 4 hours, under CO_2; some were also obtained

Card 1/3

Investigations of benzazoles. II. ... S/079/62/032/008/003/006
D204/D307

by the reaction of o-phenylene diamine with aldehydes. II and III were synthesized, in 40 - 90 % yields, by the 1:1 condensation of aromatic aldehydes with N-phenyl- and N-methyl-o-phenylenediamines and oxidation of the resultant Schiff's bases with $PhNO_2$. IV were obtained by the interaction of o-phenylene diamine (1 mole) and aldehydes (2 moles), in acetic acid, at room temperature, in 30 - 80% yields. V, VI and VII were prepared by the 1:1 condensation of aldehydes with (a) 2-methyl-, (b) 1,2-dimethyl-, and (c) 2-benzyl-benzimidazoles, in the presence of H_3BO_3, at 195 - 200°C, over 2.5 hours, in 70 - 80 (V), 35 - 65 (VI) and 70 - 80 (VII) percent yields, respectively. The reactivity of the H-atoms in the methyl group of 2-methyl-benzimidazole (A) was greater than that of 2-methyl-benzoxazole (B), owing to their higher mobility. Uv absorption spectra of phenyl-, p-halogenophenyl-, p-tolyl-, and p-methoxy-phenyl- benzimidazoles exhibited maxima at 300 - 310 mμ. Diphenyl- and 1-naphthyl-derivatives showed peaks at 315 and 337 mμ, and those of p-dimethyl- and p-diethylaminophenyl- at 330 and 337 mμ. Spectra of 1-substituted 2-aryl-benzimidazoles showed the absence of conjugation between the N-substituents and the remainder of the molecule. The structures VII

Card 2/3

S/079/62/032/008/003/006
D204/D307

Investigations of benzazoles. II. ...

are not coplanar. There are 1 figure and 3 tables.

ASSOCIATION: Ural'skiy politekhnicheskiy institut (Urals Polytechnical Institute)

SUBMITTED: August 1, 1961

Card 3/3

SHEYNKER, Yu.N.; POSTOVSKIY, I.Ya.; BEDNYAGINA, N.P.; SENYAVINA, L.B.; LIPATOVA, L.F.

Equilibrium between the tetrazole and azide forms in benzothiazole-tetrazole. Dokl. AN SSSR 141 no.6:1388-1390 D '61. (MIRA 14:12)

1. Ural'skiy politekhnicheskiy institut im. S.M.Kirova i Institut khimii prirodnykh soyedineniy AN SSSR. Predstavleno akademikom M.I.Kabachnikom.
(Benzothiazole) (Tetrazole) (Azides)

VASIL'YEVA, N.L.; YERMAKOVA, M.I.; POSTOVSKIY, I.Ya.

Determination of gallium with N,N-di(2-hydroxy-5-sulfophenyl) C-cyanoformazan. Zhur. VKHO 5 no.1:110 '60. (MIRA 14:4)

1. Institut khimii Ural'skogo filiala Akademii nauk SSSR.
(Gallium—Analysis)

POSTOVSKIY, I.Ya.; KAZARINOVA, N.F.; AFANAS'YEVA, G.B.; LATOSH, N.I.

β-Aminoethyl diethyldithiocarbamate. Zhur. VKHO 5 no.1:113 '60. (MIRA 14:4)

1. Ural'skiy filial AN SSSR, Institut khimii.
(Carbamic acid)

KAZAKOV, V.Ya.; POSTOVSKIY, I.Ya.

Preparation of 4-alkyl- and 4-arylthiosemicarbazides. Izv. vys. ucheb. zav.; khim. i khim. tekh. 4 no. 2:238-241 '61. (MIRA 14:5)

1. Ural'skiy politekhnicheskiy institut im. S.M. Kirova. Kafedra organicheskoy khimii.
(Semicarbazide)

TYURENKOVA, G.N.; SILINA, Ye.I.; POSTOVSKIY, I.Ya.

Some N-substituted benzimidazoles and their flotation properties. Zhur.prikl.khim. 34 no.10:2327-2331 O '61. (MIRA 14:11)

1. Ural'skiy filial AN SSSR i institut "Uralmekhanobr".
(Benzimidazole) (Flotation)

MATEVOSYAN, R.O.; POSTOVSKIY, I.Ya.; CHIRKOV, A.K.

Chemistry of free radicals in the hydrazine series. Part 3: Synthesis and properties of N-carbazylpicrylnitrogen and its halo derivatives. Zhur.ob.khim. 30 no.10:3186-3193 O '61. (MIRA 14:4)

1. Ural'skiy politekhnicheskiy institut.
(Radicals (Chemistry)) (Carbazole)

PODGORNAYA, I.V.; TAYUSHEVA, N.N.; POSTOVSKIY, I.Ya.

Syntheses of derivatives of thiourea and thiosemicarbazide containing a piperidine radical. Zhur. ob. khim. 34 no.8:2521-2525 Ag '64. (MIRA 17:9)

1. Institut khimii Ural'skogo filiala AN SSSR.

YERMAKOVA, M.I.; POSTOVSKIY, I.Ya.

Chemistry of formazans. Part 7: Reaction with diazonium salts and the aminomethylation of 1,5-diphenylformazan. Zhur. ob. khim. 34 no.9:2855-2859 S '64. (MIRA 17:11)

1. Institut khimii Ural'skogo filiala AN SSSR.

AFANAS'YEVA, G.B.; POSTOVSKIY, I.Ya.

5-Mercaptobenzo[α]phenoxazin-9-one. Zhur. ob. khim. 34 no.9: 3041-3044 S '64. (MIRA 17:11)

1. Ural'skiy politekhnicheskiy institut im. S.M. Kirova, Sverdlovsk.

TANASEYCHUK, B.S.; POSTOVSKIY, I.Ya.

Synthesis of dl-β-3,4-benzacridinyl-9-α-alanine. Zhur. ob. khim. 34 no.9:3128-3129 S '64. (MIRA 17:11)

1. Ural'skiy politekhnicheskiy institut im. S.M. Kirova.